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FOR THE

Audubon Society of the State of New York.

THE EDUCATIONAL VALUE OF BIRD-STUDY¹

In our necessarily superficial treatment of zoölogical studies what should we consider as of primal importance? A knowledge of structural affinities and classification, or an acquaintance with the forms of life about us? As an answer to these questions let me ask another: What is, or should be, the chief object of elementary nature-studies? Is it to crowd an often unappreciative, because unprepared, mind with generalities and technicalities, or to bring the student into direct contact with Nature, show him her infinite resources, and establish between him and the outdoor world an intimacy thru which he will derive not only pleasure, but also physical, mental, and spiritual strength?

Interest in nature is inherent and universal, but to be self-supporting it needs encouragement. The same fact may be made to arouse eager attention or to cause heavy-eyed apathy. Let us begin, therefore, by presenting the subject in its simplest and most attractive form, gradually awakening and stimulating an interest which will permit our pupils to share the pleasures of Gilbert White, even if it does not enable them to appreciate the philosophy of Darwin. And by simplest form I mean let us make nature-study real, possible, personal. Let us teach children to know the animals which they may actually meet in nature. Then we shall not only have accomplished something practical at once, but have laid the foundation for those broader biological questions which, when forced on an unwilling, because untrained, mind, create a dislike for the subject treated which will forever debar one from its enjoyment.

In order to be impressed by man's inherent interest in ani-

¹ An address delivered before the third annual meeting of the New York State Science Teachers' Association at the American Museum of Natural History, New York, December 30, 1898.

mal life walk thru Central Park, New York City, some Sunday afternoon and see where, amid all its many attractions, people do most congregate. Is it in the quiet nooks of rocky cliffs or rustic retreats by the lakeside, on shady lawns that invite repose, near the ponds where the lily and lotus grow, or at the beds of rarely beautiful flowers? No, in none of these places shall we find more than scattered companies, but go where the animals are kept and you will find such a throng of visitors that not a cage in the whole collection is without its crowd of eager spectators. It is not alone the number of persons we shall find there, but their enjoyment of what they see that is impressive. Men, women, and children, of all ages and conditions have there a common interest; the fascination of the place is convincingly apparent.

Now without pausing here to determine which animal or group of animals holds the best attended reception, birds alone of all the higher animals are the only ones surrounding us in sufficient numbers to be readily observable. But birds' claims to our attention do not rest on so slight a basis as a mere question of numerical abundance. No other forms of life possess for us so many and such varied interests. In their courtship, nesting, habits, home-life, and intelligent adaptation to changing new conditions, they display traits of character that lead us to establish personal relationships with them. Their songs are the most eloquent of nature's voices. Their periodic comings and goings appeal to our imagination, and we marvel at the instinct which guides them over journeys thousands of miles in length. And it is this habit of migration which gives to bird-study a unique character. The student of botany or entomology must travel if he would see in their native haunts the flowers or insects of other climes. But the bird-student may stay at home and receive visits from inhabitants of the tropics and of the Arctic regions. There is not a month in the year when changes are not occurring in the feathered population of his vicinity.

The potentialities of bird-study are, in fact, limitless, but how shall we make them available to our pupils? Do we observe in children an inborn interest in birds? Is there any

natural tendency to build on? One has only to talk to young people about their feathered neighbors to discover that they have a keen desire for information about them. So keen a desire that, lacking information, they often set about the task of self-education. Too often, I regret to say, this leads them to exhibit an undue fondness for bird-nesting, in which they display a greater zeal than in any other occupation of boyhood, outside of games in competition with their fellows. But with everyone, boys and girls of all ages, this inborn liking for birds is shown in the general fondness for cage-birds. While this is very humble evidence, still if we pause a moment and think of the hundreds of thousands of people who care enough for birds to give a caged pet daily attention, and who find pleasure in its song and companionship, we shall not fail to be impressed by the universality of this love of birds.

While almost wholly unencouraged, this innate tendency might be expected to show in some degree the increase in intellectuality and demand for knowledge which mark the day, and we see that there has arisen an independent class of bird-students, composed of people who are earnestly trying to become acquainted with our birds. Within the past six years, to my personal knowledge, they have purchased, from New York and Boston publishers alone, 70,000 text-books on ornithology. These books are not nature essays, but are designed to assist students in identifying birds, and their sale indicates a corresponding demand on the part of the public for information on the subject of which they treat.

Now let me ask what attention do our educators give to the development of this inborn desire for a knowledge of the forms of life which live about us? Do they appreciate its significance? Do they even realize its existence? We have biological and zoölogical text-books with lessons in comparative anatomy and systematic relationships, admirable for those who have sufficient interest in natural history to master the technicalities that beset its study, but utterly unsuited to that infinitely greater class which, to paraphrase an epigram, loves birds and hates ornithology.

Let us aid the student naturalist to the full extent of our knowledge, but let us treat with equal care the pupils whose interest in nature needs encouragement. And I know of no better medium by which to develop this interest than by the study of birds, for which, as I have said, the child has an inherent liking.

I am not pleading for the study of ornithology, but for a simple course of lessons which would result in making children as familiar with our common birds as they are with our common wild flowers. Almost anyone living in the country can name at sight fifty varieties of wild flowers, but who knows a dozen birds? And why should we not be as familiar with the more abundant birds as we are with the daisy, violet, or buttercup?

In by far the greater number of cases what is the practical result derived by the student from a course in botany? Is it the ability to define the parts of a flower, or the acquisition of a knowledge of our wild flowers and trees which gives new meaning and endless pleasure to walks in the fields and woods?

What an admirable thing it is, this study of botany; how often it takes us out of doors when, if we had no object to prompt us, both body and mind would lose the wholesome, uplifting influences of "the lights of setting suns, and the round ocean, and the living air, and the blue sky."

I am a flower lover, but as a bird student may I not be pardoned for thinking that birds are infinitely more attractive than flowers? Can the flower sing? Can it build a home, where, with an exhibition of many traits we might well emulate, the bird-parents will rear their offspring? Can it please the eye by such an unparalleled exhibition of power and grace as the bird in flight displays? Can a senseless thing compare with a sentient one in its interest for man?

Why is it, then, that while flowers receive a measure of the attention due them, birds are virtually ignored? The explanation, I believe, lies partly in the fact that in our summary treatment of nature-studies, we give equal or nearly equal attention to the two great divisions of life, the vegetable and

the animal kingdoms, calling the first a course in botany, the second a course in zoölogy; and under botany we have to study only plants and plant-life, but under zoölogy we have everything from the lowest to the highest forms of animal life, and consequently, each of the great classes of the animal kingdom will be studied thru perhaps a single species.

In botany, therefore, we have some opportunity to bring a practical knowledge into the lives of our pupils which will be a source of pleasure to them when they have almost forgotten the names of other studies. But in zoölogy what will they learn about the birds so abundant around them?

In reply to my inquiry concerning natural-science studies in the public schools of the City of New York, I have been given an outline of the course in elementary science for the year 1897--98. In it, under plants, I find very properly included "Wild and cultivated flowers of New York and vicinity." But under zoölogy I look in vain for anything about the birds of New York and vicinity. In fact, I find birds mentioned only once, as follows: "Classification of quadrupeds, birds, fishes, radiates, reptiles, mollusks"; and a prominent member of the Teachers' Association tells me that birds will be represented in this course by one species, either a pigeon or a chicken! So far as a pigeon represents the Class Aves it will doubtless answer all the purposes of the instructor, but an attempt to make it represent a class of animals which more than any others may be of personal interest and importance to us, is an evident failure to recognize the intimate relation which should and does exist between bird and man.

Most people will be satisfied with comparatively little information concerning clams and starfish; their experience with them will doubtless ever be more or less limited, but they would like to know something about the birds that nest in their gardens or orchards. Bird-study thus has a practical value. It introduces us to creatures with whom we may come in daily contact, and does not end therefore with school days, but forms a permanent bond between us and nature.

There is, however, another and equally important reason why we should become acquainted with birds; a reason which applies more especially to boys. Boys are huntsmen by nature. Most of them begin their warfare against the birds as soon as they are old enough to climb, and continue it until they are too old to shoot. Doubtless more boys between the ages of ten and fourteen form collections of birds' eggs than engage in the pursuit of all other branches of natural history combined. This is a perfectly natural exhibition of an instinct inherited from ancestors who lived by the chase.

Now, while we may all deplore the wanton destruction of bird-life, few of us realize the potency for evil or for good contained in this inherent taste which prompts a boy to hunt and kill. Let it grow unchecked, and it may serve as a root for the most cruel traits human nature exhibits—lack of sympathy with suffering, disregard of the value of life, the foundation, in other words, of brutality. If, however, we develop it, arousing in the child an appreciative interest in animals and teaching him their economic and æsthetic importance, we shall at the same time morally elevate him to an immeasurable degree.

Just as a boy is by nature thoughtlessly cruel, so is woman naturally kind and tender-hearted. It might be supposed, therefore, that woman's inborn love of animals required no special development, and could never lead her into sins against nature. If this were the case, however, should we be confronted by appeals from the Audubon Societies for the protection of birds, and statements by authorities that the annual destruction of bird-life for millinery purposes threatens with extinction many of our most useful and beautiful species? Bird-study, therefore, not only has its æsthetic side, as it opens to us new fields of enjoyment and brings us into closer touch with nature, but it involves humane and moral questions of the deepest import.

Admitting, then, the advisability of giving greater attention to birds than we do to other animals with which we may not establish such personal relations, what method of in-

struction shall we follow in bringing them into the classroom?

The classification which seems to me the best suited for elementary instruction is seasonal. This is not only simple, but natural, and it has the additional advantage of so associating the bird with the seasons, that we learn to think of it, not as a specimen, but as a part of nature. Hence, in giving courses of lectures on our native birds, I begin with the "permanent residents," or the species which are with us thruout the year. To these are added the winter birds, and then follow the migratory species which come in March, April, and May. This brings us to summer birds, birds' nests, and a study of the home-life of birds, and the course is concluded with a study of autumn birds and the retreat of the birds to their winter homes.

These purely objective talks may be followed by subjective lectures on the economic value of birds, structure and habit, the colors of birds, bird migration, etc.

It is not supposed that such instruction would result in acquainting the child with our entire avifauna. It is simply designed to direct his inborn interest in animals in the right channel; to teach him that birds were not intended to be only marks for stones, sling-shots, and guns. It is, in fact, an invitation to a study which he may pursue all his life with ever-increasing interest.

In conclusion I may summarize the whole matter by appending

TEN REASONS FOR THE STUDY OF BIRDS

First—Because birds are sensitively organized creatures, and respond so readily to the influences of their surroundings that in their distribution, structure, and habits they furnish naturalists with invaluable evidences of the workings of natural laws.

Second—Because birds, in preventing the undue increase of insects, in devouring small rodents, in destroying the seeds of harmful plants, and in acting as scavengers, are man's best

friends among animals. Without their services the earth would not long be habitable; therefore we should spare no effort to protect them.

Third—Because we have an inborn interest in animals, which, properly developed, will not only afford us much pleasure, but will broaden our sympathies and morally elevate us.

Fourth—Because birds, being the most abundant and conspicuous of the higher animals, may be most easily studied and observed.

Fifth—Because birds are beautiful in form and color and exhibit an unequaled power of flight, their acquaintance thus stimulating our love of beauty and of grace.

Sixth—Because birds are unrivaled as musicians; their songs are the most eloquent of nature's voices, and by association may become inexpressibly dear to us.

Seventh—Because the migrations of birds excite our wonder and admiration, and their periodic comings and goings not only connect them with the changing seasons, but so alter the character of the bird-life of the same locality during the year that their study is ever attended by fresh interest.

Eighth—Because in their migrations, mating, nest-building, and home-lives, birds not only display an intelligence that attracts us, but exhibit human traits of character that create within us a feeling of kinship with them, thereby increasing our interest in and love for them.

Ninth—Because with birds the individual lives in the species; the robin's song we hear in our boyhood we may hear in our old age; therefore birds seem never to grow old, and acquaintance with them keeps alive the many pleasant memories of the past with which they are associated.

Tenth—Because, in thus possessing so many and such varied claims to our attention, birds more than any other animals may serve as bonds between man and nature.

FRANK M. CHAPMAN

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